

Needs Analysis of Interactive Multimedia Based on *Drill and Practice* to Improve Motivation and Critical Reading Skills in Elementary Schools

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ABSTRAK

Abstract: The purpose of this study was to analyze the needs of interactive multimedia based on drill and practice in elementary school. This research was conducted at an elementary school located in Sleman Regency, Yogyakarta, Indonesia. Participants in this study were 93 fifth grade students at elementary schools. The data in this study were obtained using a needs questionnaire from interactive multimedia based on drill and practice. The results of this study indicate that critical reading skills and student motivation are still low. So that in learning activities appropriate learning media is needed. Based on the results of the analysis of the needs for instructional media, students stated that they needed interactive multimedia based on drill and practice. The results of this study indicate that it is necessary to develop interactive multimedia based on drill and practice.

Abstrak: Tujuan penelitian ini adalah menganalisis kebutuhan multimedia interaktif berbasis *drill and practice* di sekolah dasar. Penelitian ini dilakukan di sebuah sekolah dasar yang terletak di Kabupaten Sleman, Yogyakarta, Indonesia. Partisipan dalam penelitian ini adalah 93 siswa kelas V di sekolah dasar. Data dalam penelitian ini diperoleh dengan menggunakan angket kebutuhan dari multimedia interaktif berbasis *drill and practice*. Hasil penelitian ini menunjukkan bahwa kemampuan membaca kritis dan motivasi belajar siswa masih rendah. Sehingga dalam kegiatan pembelajaran diperlukan media pembelajaran yang sesuai. Berdasarkan hasil analisis kebutuhan media pembelajaran, siswa menyatakan membutuhkan multimedia interaktif berbasis *drill and practice*. Hasil penelitian ini menunjukkan bahwa perlu dikembangkan multimedia interaktif berbasis *drill and practice*.

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Reading skills are an important aspect in developing students' thinking skills (Sultan, 2018). Reading is a language skill that plays an important role in a person's life (Akin, et al, 2015). Reading skills affect students' cognitive development (Wahyuningsih & Kiswaga, 2019). Reading skills encourage students to be able to make correct decisions in classroom learning activities (Trisiantari & Sumantri, 2017). In learning activities, reading skills are divided into two types, namely preliminary reading skills and advanced reading skills. Preliminary reading skills are basic skills taught to early grade students to be able to recognize sound symbols in various variations of letters, words and sentences. Meanwhile, advanced reading skills began to be taught to high-grade students in elementary schools. Advanced reading skills are more complex reading skills, students can not only pronounce words or sentences, but can understand and interpret a reading.

One aspect of the advanced reading skills needed today is critical reading skills. In the era of information technology that is rapidly developing, critical reading skills are needed to understand, interpret, and assess information and provide critical responses to a variety of readings. Through critical reading activities, readers can gain knowledge that can later be used to increase their thinking capacity as well as to make readers empowered (Sultan, 2018). Critical reading skills play an important role in improving students' skills to think critically (Pratama, 2016).

Critical reading skills are needed by every student in order to assess and understand a reading critically. Through critical reading activities, students can also get information correctly. Therefore, these critical reading skills must be improved in every learning process. As stated by Elhefni, et al (2020) stated that critical reading skills are one of the aspects that must be taught to elementary school students so that they can improve critical thinking skills and learning achievement. So that in learning activities, critical reading skills should be improved.

In addition to critical reading skills, learning activities should also increase student motivation. This is because learning motivation plays an important role in learning activities. Students who are motivated to learn will show interest, activity and participation in learning activities. The presence of motivation in learning activities is a non-intellectual psychological factor that can lead to learning activities, ensures continuity of learning and provides direction for student learning activities. (Primadiati & Djukri, 2017). Motivation becomes a driving force for students to fulfil their learning needs, so that in the learning process the teacher needs to increase learning motivation in students so that they can learn well to obtain maximum learning outcomes (Nurdin, 2016).

Referring to the explanation by the opinion of these experts, it can be concluded that motivation plays an important role in achieving learning objectives. Students who are motivated in learning activities will always show their attitudes and interest in the material provided by the teacher. In addition, motivation also plays an important role in students' critical reading skills. As stated by Tønnessen & Uppstad, (2015) motivation is one of the factors that affect reading skills. Then based on research conducted by Prasetyaningrum (2019) there is an effect of learning motivation on students' reading comprehension ability. Therefore motivation must be increased in learning activities.

Referring to the results of a preliminary study conducted by researchers at elementary schools located in Sleman Regency, Yogyakarta, Indonesia, it shows several problems that occur, including the low critical reading skills of students. This is shown in the learning process, students have not been able to understand a reading well, the ability to search for information in reading is also low. In addition, students' motivation in learning activities is also in the low category. The results of the preliminary study also show that in learning activities interactive multimedia is not yet available which can improve critical reading skills and student motivation.

The results of research conducted by Vagg, et al, (2020) show that students recognize the importance of the role of multimedia as a practical learning tool that can complement and support the learning methods used in the classroom. The results of research conducted by Leow & Neo (2014) show that the use of interactive multimedia has an effect on increasing learning achievement and motivation. The use of technology in the development of learning media has an important role in improving the quality of student learning achievement. This is because the learning media is able to integrate aspects of knowledge and skills (Made Rajendra & Made Sudana, 2018). In addition, interactive multimedia used in learning will make learning more interesting (Pujawan, 2018).

Various research results indicate that interactive multimedia development can be combined with learning approaches, models or methods. The results of this combination are effective in improving the quality of learning. Several related studies, including research conducted by Antari, et al (2013) found that learning using interactive multimedia combined with a whole language approach was proven to be effective in improving student learning outcomes. Research conducted by Manurung & Panggabean (2020) shows that the problem solving ability of students who are taught using interactive multimedia based on problem solving is better than students who learn using conventional methods.

The results of the research that have been done indicate that combining interactive multimedia with the right approach, model, or method will improve the quality of learning. So that in choosing an approach, model, or method to be combined with multimedia, it must be adjusted to the material and learning objectives to be achieved. One of the learning models that can be combined with interactive multimedia is the drill and practice model. The advantage of using interactive multimedia based on drill and practice is to encourage student feedback and student activities in learning activities in class. In addition, the use of interactive multimedia based on drill and practice provides a variety of practice questions that students can do (Pujawan, 2018).

Besides being able to increase learning activities for students, the use of interactive multimedia based on drill and practice in learning can also increase learning motivation (Gunawan, et al, 2020). It is in line with the statement expressed by Chuang (2014) which states that learning using technology will increase student motivation. In order for students to be more motivated during learning activities, learning media can be provided that can make learning more interesting (Pebriani, 2017). Artawan (2020) states that one of the solutions that can be used to overcome the problem of low reading skills in students is to use innovative learning, namely by combining learning models with learning media to stimulate reading skills in students.

Referring back to a preliminary study which includes the problem of low critical reading skills, low learning motivation and the unavailability of learning media that can increase motivation and critical reading skills. Deeper research is needed to determine and analyze the need for interactive multimedia based on drill and practice to improve critical reading skills and learning motivation.

METHOD

This research uses a quantitative approach with a survey method. This research was conducted at an elementary school located in Sleman Regency, Yogyakarta, Indonesia. Participants in this study were 93 fifth grade students. The research data were obtained using a questionnaire on the need for interactive multimedia based on drill and practice. The data obtained from this study were analyzed using descriptive analysis. This analysis is used to describe the need for interactive multimedia based on drill and practice.

FINDINGS

Analysis of the need for interactive multimedia based on drill and practice was carried out through a survey using a needs questionnaire for interactive multimedia based on drill and practice. This questionnaire consists of 6 statement items on a scale of 1—5. The following is the statement in the questionnaire on the need for interactive multimedia.

Table 1. Statement Items On A Scale of 1—5

No.	Statement	Answer				
		Strongly Disagree	Disagree	Doubtful	Agree	Strongly Agree
1	I need learning media for learning activities in class.					
2	I like learning media that can combine video, images, animation, text, and practice questions.					
3	I like learning media that have attractive colors.					
4	I would prefer to learn using computer assisted media.					
5	I prefer to study while looking at the pictures that support the subject matter.					
6	I prefer to do practice questions using computer assisted media.					

Based on the results of a survey of the needs for learning media, the following data were obtained.

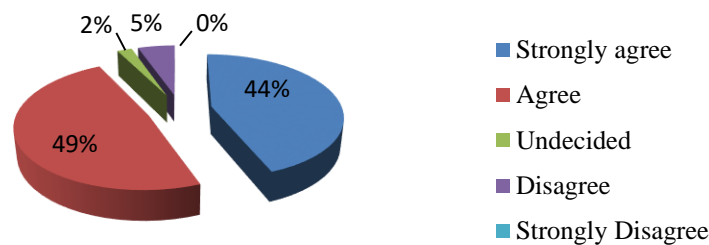


Figure 1. Student Responses to Statement Number 1

Based on the student response graph to statement number 1 above, it can be seen that out of 93 students, 44% strongly agree and 49% agree that they need learning media for learning activities in the classroom. Then for the second statement item is with the following graph.

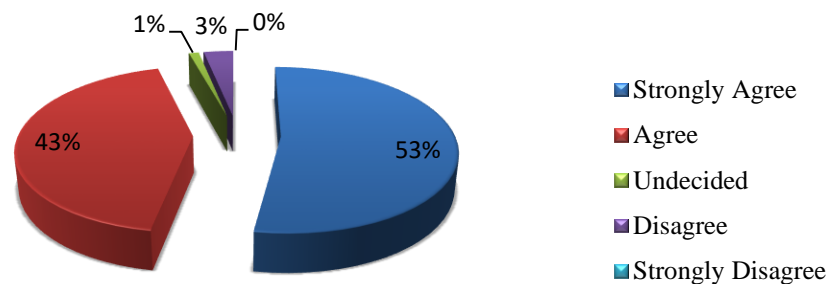


Figure 2. Student Responses to Statement Number 2

Based on the student response graph to statement number 2 above, it can be seen that out of 93 students, 53% strongly agree and 43% agree that they like learning media that can combine video, images, animation, text, and practice questions. Then for the third statement item is the following graph.

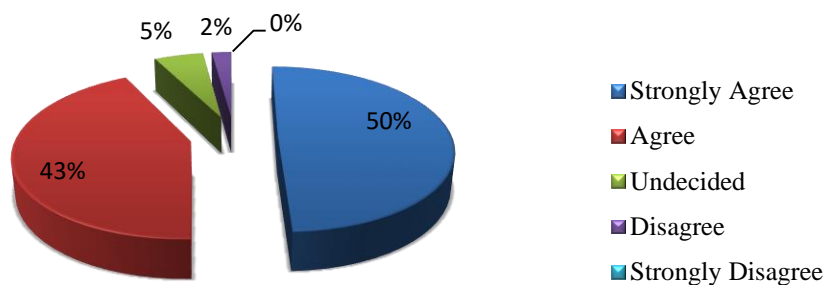


Figure 3. Student Responses to Statement Number 3

Based on the student response graph to the statement number 3 above, it can be seen that out of 93 students, 50% strongly agree and 43% agree that they like learning media that have attractive colors. Then for the fourth statement item is with the following graph.

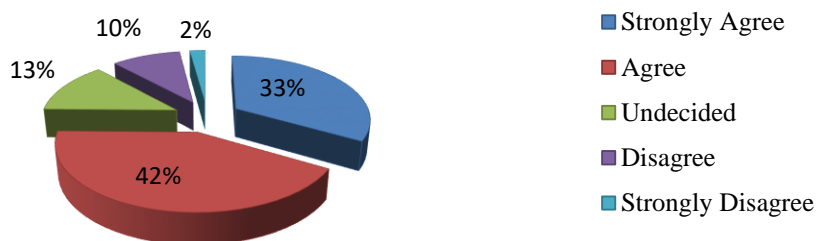


Figure 4. Student Responses to Statement Number 4

Based on the student response graph to the statement number 4 above, it can be seen that of the 93 students, 33% strongly agree, 42% agree that they like learning using computer assisted media. These results indicate that the instructional media design they need should also be used in other media, for example an android mobile phone in the form of a learning application. Then for the fifth statement item is with the following graph.

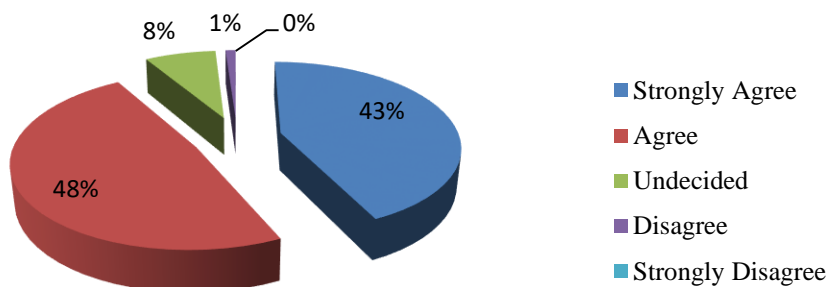


Figure 5. Student Responses to Statement Number 5

Based on the student response graph to the statement number 5 above, it can be seen that of the 93 students, 43% strongly agree, 48% agree that they prefer to learn while looking at pictures that support the subject matter. These results indicate that the instructional media design they need should be able to combine media elements in the form of images that match the subject matter. Then for the sixth item the statement is as follows.

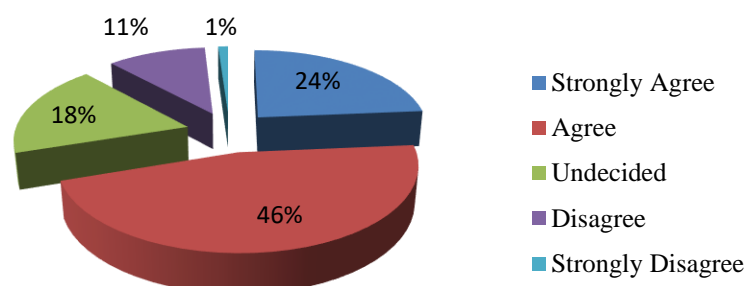


Figure 6. Student Responses to Statement Number 6

Based on the student response graph to the statement number 8 above, it can be seen that out of 93 students, 24% strongly agree, 46% agree that they prefer to do practice questions using computer assisted media. These results indicate that the instructional media design they need should be able to train students to work on practice questions easily.

DISCUSSION

The results of the research from the analysis of the needs for learning media indicate that an interactive multimedia development based on drill and practice is needed. The development of interactive multimedia is needed to improve critical reading skills and learning motivation. This interactive multimedia development must pay attention to several things. Among them is multimedia that will be developed should be able to combine several media elements such as images, text, video, audio, and animation. Then the use of colors must be harmonious and attractive. Furthermore, image elements must also be adapted to the subject matter. In addition, the media to be developed should have clear instructions for use.

The development of interactive multimedia based on drill and practice to improve critical reading skills and learning motivation is very important. This is because through critical reading activities, students can be careful, thorough, corrective, and able to understand reading ideas well. (Muhsyanur, 2019). Through critical reading skills, students will get meaning from the text (Marschall & Davis, 2012). Meanwhile, through good learning motivation, students can focus their attention in the classroom to master knowledge (Long, Ming, & Chen, 2013).

Development of interactive multimedia based on drill and practice must be done. This is because through this technology it will make learning activities more effective. Drill and practice-based learning technology has a positive impact on the learning process (Beserra, Nussbaum, & Grass, 2016). Interactive multimedia combined with drill and practice provides learning facilities for students to practice doing questions. Practice is identified as one of the important components in learning activities (Yu & Chen, 2014). In connection with the analysis of the needs for interactive multimedia in elementary schools, the multimedia to be developed must consider the attractiveness of the media and material content that can improve critical reading skills and learning motivation.

CONCLUSION

Based on the problems that occur, it shows that students' critical reading skills and learning motivation are still low. Then the results of the analysis of the needs for interactive multimedia show that in learning activities interactive multimedia is needed which can provide opportunities for students to practice doing questions. In addition, interactive multimedia that students need is interesting multimedia. So based on the problems that occur and the need for interactive multimedia, in learning activities interactive multimedia based on drill and practice is needed to improve critical reading skills and student learning motivation. The development of interactive multimedia based on drill and practice must pay attention to several things, including the material contained in multimedia that should be adjusted to the learning objectives and can attract students' attention to learn.

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